

**ABSTRACT OF THE DISCLOSURE**

A torque measuring device for a rotating body comprises: a rotary section composed of first and second flanges to be joined respectively to driving and driven shafts, and a hollow cylinder having the first and second flanges formed respectively on both edges thereof; torque detectors provided at an inner circumference of the cylinder; light emitting elements provided at an outer circumference of the rotary section and adapted to emit light according to an output from the torque detectors thereby generating an optical signal; a light receiving fiber disposed outside the rotary section and adapted to receive the optical signal from the light emitting elements; and a rotary transformer composed of a primary coil constituted by an annulus with two-part separable structure disposed outside the rotary section and a secondary coil provided at the outer circumference of the rotary section, and adapted to supply electrical power to the rotary section.